

Appl. No.: 10/610,688  
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**Amendments to the Claims:**

This listing of claims will replace all prior versions of claims in the application:

**Listing of Claims:**

Claim 1 (currently amended).

Claim 2 (currently amended).

Claim 3 (currently amended).

Claim 4 (currently amended).

Claim 5 (currently amended).

Claim 6 (currently amended).

Claim 7 (currently amended).

Claim 8 (currently amended).

Claim 9 (currently amended).

Claim 10 (canceled).

## Claim Amendments for Application No. 10/610,688

### CLAIMS

What I claim as my invention is:

1. (currently amended): An angle clamp with Z-axis attachment and quick acting buttons comprising:

three mutually perpendicular base plates[[],] including a square shape bottom-plate and two rectangular side-plates which are attached to two adjacent edges of [[the]] said square shape bottom-plate so that both are perpendicular to [[the]] said square shape bottom-plate and at right angle to each other;

a floating right-angle head attached to a first threaded shaft with a handle, said first threaded shaft being ~~which is~~ fed through a first quick release mechanism located in a protruded ear at the vertex of [[the]] said square shape bottom-plate opposite to the other vertex where [[the]] two said rectangular side-plates will meet if extended;

a Z-axis attachment including a right-angle metal plate, a mounting block and a clamping arm with a second ~~another~~ quick release mechanism and a second threaded shaft with a turning knob and a clamping pad;

a quick acting button accessible from outside of each said quick release mechanism being used to control the locking and releasing action of each said quick release mechanism over each said threaded shaft.

2. (currently amended): The [[An]] angle clamp with Z-axis attachment and quick acting buttons according to claim 1, wherein said square shape bottom-plate is equipped with two slotted holes along two adjacent edges other than the two edges attaching to [[the]] two said rectangular side-plates so that [[the]] said angle clamp assembly can be fixed to a work desk by screws.

3. (currently amended): The angle clamp with Z-axis attachment and quick acting buttons according to claim 1, wherein said [[The]] floating right-angle head according to claim 1 is free to swivel horizontally and to slide freely with said first threaded shaft on the flat surface of [[the]] said square shape bottom-plate with the attached threaded shaft;

[[the]] said first threaded shaft, when turned clockwise by [[the]] said handle, will advance [[the]] said floating right-angle head towards [[the]] two said rectangular side-plates so that two workpieces can be clamped at right-angle to each other against the inside surfaces of [[the]] two said rectangular side-plates;

[[the]] said first threaded shaft, when turned counterclockwise by [[the]] said handle, will retract [[the]] said floating right-angle head away from [[the]] two said rectangular side-plates so that [[the]] said two clamped workpieces can be released.

4. (currently amended): The floating right angle head according to claim 3, wherein two tooling holes are provided on each clamping surface for inserting the leveling pads, screw threads are made on the internal surfaces of the said tooling holes. The angle clamp with Z-axis attachment and quick acting buttons according to claim 1, wherein two tooling holes are provided on said floating right-angle head, one on each clamping surface, said tooling holes being internally threaded.

5. (currently amended): The leveling pads according to claim 4, wherein screw threads and locking nuts are equipped to adjust the amount of protrusion of the said leveling pads so that the adjustable clearance between the workpieces and the said floating right angle head is provided for increased welding access. The angle clamp with Z-axis attachment and quick acting buttons according to claim 1, wherein two leveling pads, being threaded externally, may be inserted into said tooling holes on said floating right-angle head to adjust the clearance between workpieces and said floating right-angle head for better welding access, locking nuts may be added to lock said leveling pads in position.

6. (currently amended): The angle clamp with Z-axis attachment and quick acting buttons ~~The two rectangular side plates~~ according to claim 1, wherein the outside surfaces of said two rectangular side-plates are machined flat and square so that [[the]] said angle clamp assembly can be laid vertically with the outside surface of either one of [[the]] said rectangular side-plates resting on a [[the]] work desk to clamp a workpiece perpendicular to said [[the]] work desk without the aid of other fixture or device.

7. (currently amended): The angle clamp with Z-axis attachment and quick acting buttons according to claim 1, wherein said [[The]] Z-axis attachment ~~according to claim 1~~ comprising a right-angle metal plate, a swing away clamping arm with a second quick release mechanism, a mounting block and a second threaded shaft with clamping pad and turning knob; ~~wherein~~:

[[the]] said right-angle metal plate is mounted by screws to [[the]] two said rectangular side-plates and act as an extension [[of the]] to two said rectangular side-plates;

the inside surfaces of [[the]] said right-angle metal plate [[is]] are machined square and flat and made to be in alignment [[align]] with the inside surfaces of [[the]] two said rectangular side-plates so that workpieces can be clamped at a three dimensional mutually perpendicular relationship;

[[the]] said clamping arm is attached externally by screws through [[the]] said mounting block to one side of [[the]] said right-angle metal plate;

[[the]] said second threaded shaft is fed through the free end of [[the]] said clamping arm where said second another one of the two quick release mechanisms is located.

8. (currently amended): The angle clamp with Z-axis attachment and quick acting buttons according to claim 1, The Z-axis attachment according to claim 7, wherein [[the]] said clamping arm is attached to [[the]] said mounting block through a shaft inserted to

[[the]] said mounting block so that [[the]] said clamping arm can be rotated about the axis of [[the]] said shaft for an angle of approximately 135 degrees;

[[the]] said clamping arm can thus be swung away from a clamped workpiece its clamping position to the open position for rapid and easy removal of said workpiece even though said workpiece may be very [[the]] bulky after assembling work. finished workpiece.

9. (currently amended): Both the quick release mechanisms The angle clamp with Z-axis attachment and quick acting buttons according to claim 1, wherein said first quick release mechanism comprising:

a cylindrical shape first quick acting button;

a half threaded nut attached to the internal flat surface of the said quick acting button with the axis of the threaded hole at right angle to the axis of the said quick acting button, wherein the screw thread is made internally on the half side which is opposite to the side closer to the said quick acting button;

a first half-threaded nut attached to the internal flat surface of said first quick acting button, said first half-threaded nut including a first half threaded hole with its axis at right angle to the axis of said first quick acting button, said first half threaded hole being threaded internally on the half side which is opposite to the side closer to said first quick acting button;

a first helical spring is placed and partially compressed between [[the]] said first half-threaded nut and the inside wall of a sleeve or the cavity which holds [[the]] said first quick release mechanism;

said sleeve one of the said cavity is located at one of the vertex of [[the]] said square bottom-plate; and another one of the said cavity is located at the free end of the said clamping arm of the said Z-axis attachment.

said second quick release mechanism comprising:

a cylindrical shape second quick acting button;

a second half-threaded nut attached to the internal flat surface of said second quick acting button, said second half-threaded nut including a second half threaded hole with its axis at right angle to the axis of said second quick acting button, said second half-threaded hole being threaded internally on the half side which is opposite to the side closer to said second quick acting button;

a second helical spring is placed and partially compressed between said second half-threaded nut and the inside wall of a cavity which holds said second quick release mechanism;

said cavity is located at the free end of said clamping arm of said Z-axis attachment.

10. (canceled).